Installation and Operating Manual

Fastrax

Dome Video Camera for Ceiling and Wall Mounting

EDC-141E, EDC-142E, EDC-143E

Contents

1. Introduction 3
1.1 Features 3

2. Installation and Configuration 5
2.1 Package Contents 5
2.2 Basic Configuration of Fastrax II Dome Camera System 6
2.2.1 Single Multiplexer 7
2.2.2 Single User with Two Multiplexer 8
2.2.3 Two Multiplexer with Slave Keyboard Controller 9
2.2.4 Two Multiplexer with Slave Keyboard Controller (method 2) 10
2.3 Setting Unit For Termination 11
2.4 Setting Address(Id) of Dome Camera 12
2.5 Setting Protocol of Dome Camera 13
2.6 Connection 14
Connecting to the RS-485 14
Connecting to the Monitor 14
Connecting Alarms 14
Connecting the Power 14
2.7 Getting Started 14

3. Program and Operation 15
3.1 Selecting Dome Camera 15
3.2 Accessing On-Screen Menu Utility 15
3.3 How To Control On-Screen Menu Utility 15
3.4 Auto Scan 16
3.5 Preset 17
3.6 Shortcut Preset Program 18
3.7 Tour 18
3.8 Pattern 19
3.9 Alarm 20
3.10 Area Title 20
3.11 Privacy Zone 21
3.12 Camera 22
Focus Control 22
WB(White Balance) Control 22
AE Control 23
Line Lock Control 23
Night Shot Menu 23
3.13 Dome Setup 24
Home Function Setup 24
OSD Display Setup 24
View Direction 25
Dome OSD Display 25
Area Display 25
View Angle Setup 25
Panning Ragne 25
Tilt Over Angle 25
Flip 26
Initialize Data 26
Origin Offset 26
Dome Reset 26
System Information 26

4. Troubleshooting 27
5. Glossary 27
6. Short-Cut Key 28
7. Specifications 28
8. Dimensional Drawings 30

Safety Instructions

- Read these safety instructions and the operation manual first before you install and commission the camera.
- Keep the manual in a safe place for later reference.
- Protect your camera from contamination with water and humidity to prevent it from permanent damage. Never switch the camera on when it gets wet. Have it checked at an authorized service center in this case.
- Never operate the camera outside of the specifications as this may prevent the camera functioning.
- Do not operate the cameras beyond their specified temperature, humidity or power ratings. Operate the camera only at a temperature range of -10°C to +50°C and at a humidity of max. 90%.
- To disconnect the power cord of the unit, pull it out by the plug. Never pull the cord itself.
- Pay attention when laying the connection cable and observe that the cable is not subject to heavy loads, kinks, or damage and no moisture can get in. Do not attempt to disassemble the camera board from the dome.
- Do not attempt to disassemble the camera board from the dome.
- The warranty becomes void if repairs are undertaken by unauthorized persons. Do not open the camera housing. Maintenance and repair have to be carried out only by authorized service centers.
- Do not use strong or abrasive detergents when cleaning the dome. Use a dry cloth to clean the dome surface. In case the dirt is hard to remove, use a mild detergent and wipe gently.

Note: This is a class A digital device. This digital device can cause harmful interference in a residential area; in this case the user may be required to take appropriate corrective action at his/her own expense.

1. Introduction

1.1 Features

The Fastrax II Keyboard Controller and the Fastrax II dome camera make up the building blocks for any surveillance/security system. Using multiple Keyboard Controllers and multiple dome cameras, no place is too large for monitoring. Extensible and flexible architecture facilitates remote control functions for a variety of external switching devices such as multiplexers and DVRs.

- Built-in 18x (23x,25x) times optical power zoom camera with True Night Shot function
- 240 Preset positions
- 8 Tours consist of Preset, Pattern, Auto-Scan and Tour itself can be programmed over 300 functions and Preset location. While moving, each Preset scan can be watched in smooth Vector Scan mode.
- 8 Auto Scan including vector scan
- 4 Pattern (240seconds)
- 8 Privacy zone
- 8 Alarm input / 4 Aux out (NC & NO)
- Variable speed from 0.1°/sec to 90°/sec
  Turbo speed is Max 360°/sec with Ctrl key pressed
  Maximum speed is inversely proportional to the zoom ratio
- Maximum speed is 380°/sec when preset command.
- Programmable user preferences (alarm, preset, title, etc.)
- Up to 999 selectable camera addresses (Optional 3999)
- Built-in RS-485/422 receiver driver
- Built-in power-line surge protection and lightning protection
- Clear bubble with black liner (shelter) for concealing the camera
- Optional Tinted Bubble, Indoor & Outdoor pendant housing with heater & blower, Indoor Flush Mount, Parapet mount & Roof Top mount

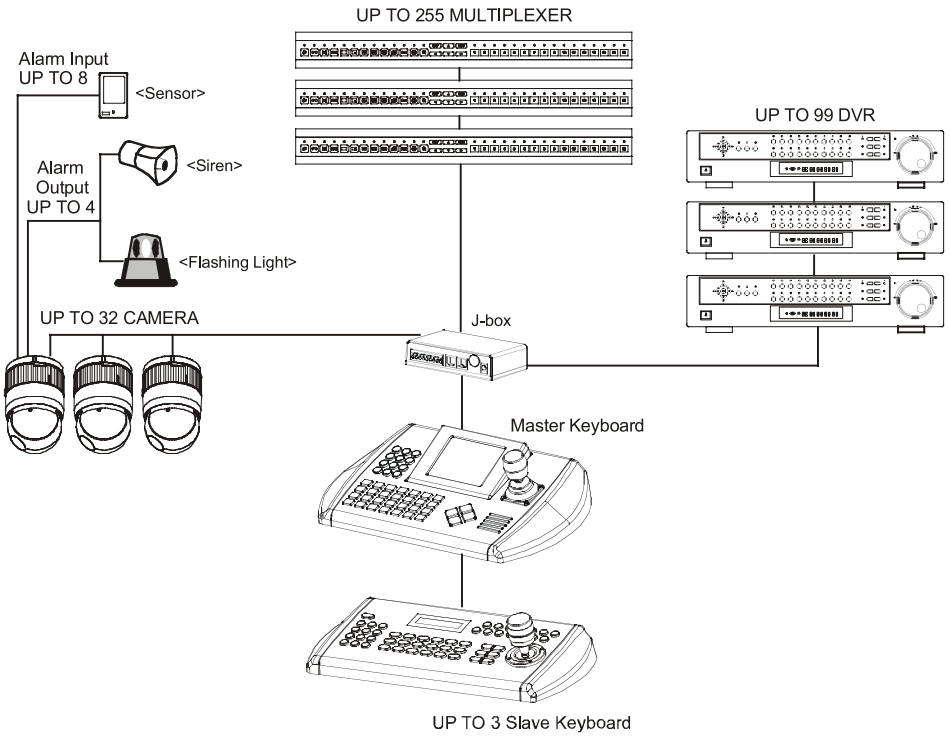


Figure 1 - Typical System Configuration

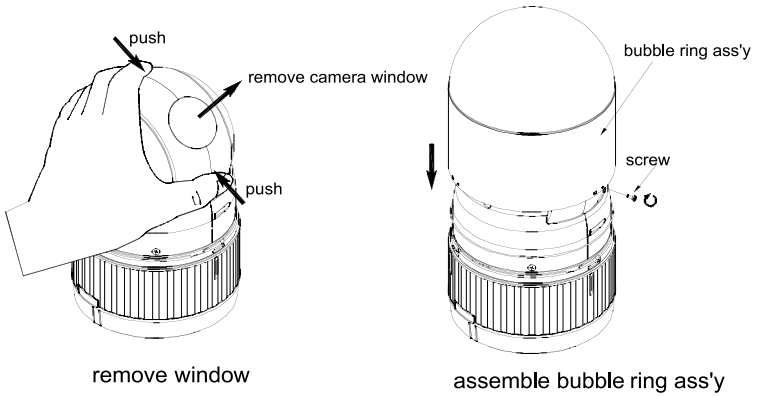


Figure 2 - Assemble bubble ring ass'y

Note: It is recommended to remove camera window for improving picture quality when you assemble bubble ring ass'y.

2. Installation and Configuration

2.1 Package Contents

The package contains the following.

1x Fastrax II E (Dome Camera)

1x Bubble Ring

1x Instruction Manual (This Document)

3x Assembly Screws for Attaching Fastrax II E

3x Plastic Anchor

1x 10Pin Connector

2x12Pin Connector

CAUTION: Be sure to have caution labels(E version only) on both body and base of the camera.
Different version will not support alarm input and output.

The dome camera is for use in surface mounting applications and the mounting surface should be capable of supporting loads up to 10lb (4.5kg).

The dome camera's base should be attached to a structural object, such as a hard wood, wall stud or ceiling rafter that supports the weight of the dome camera.

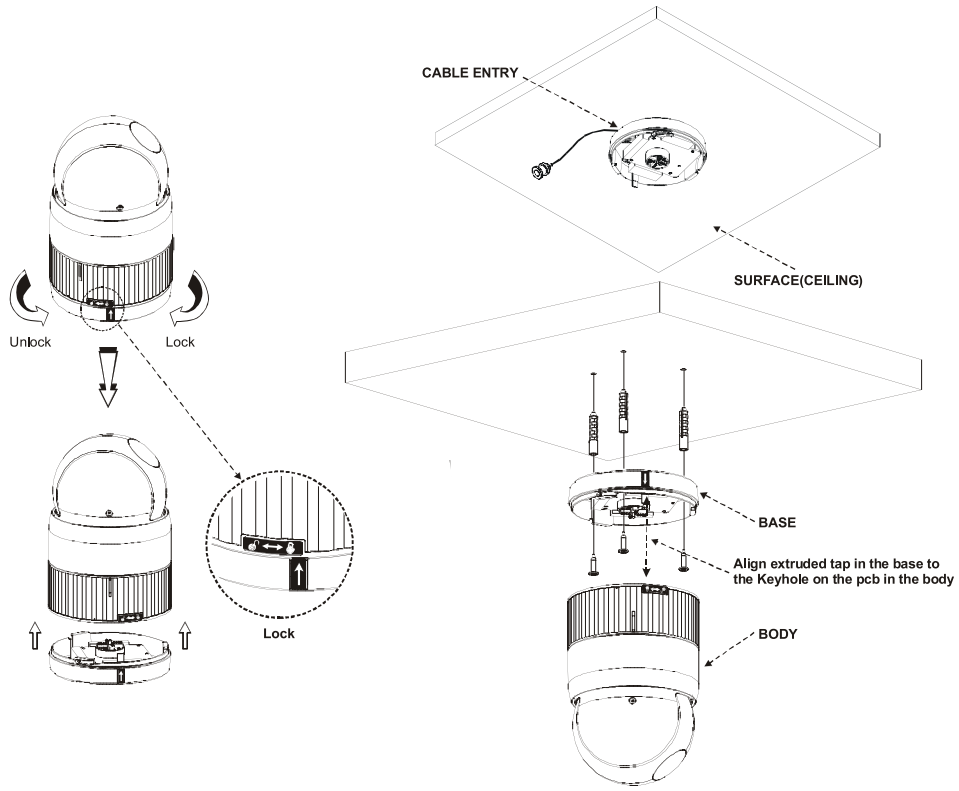


Figure 3 - Installation

2.2 Basic Configuration of Fastrax II Dome Camera System

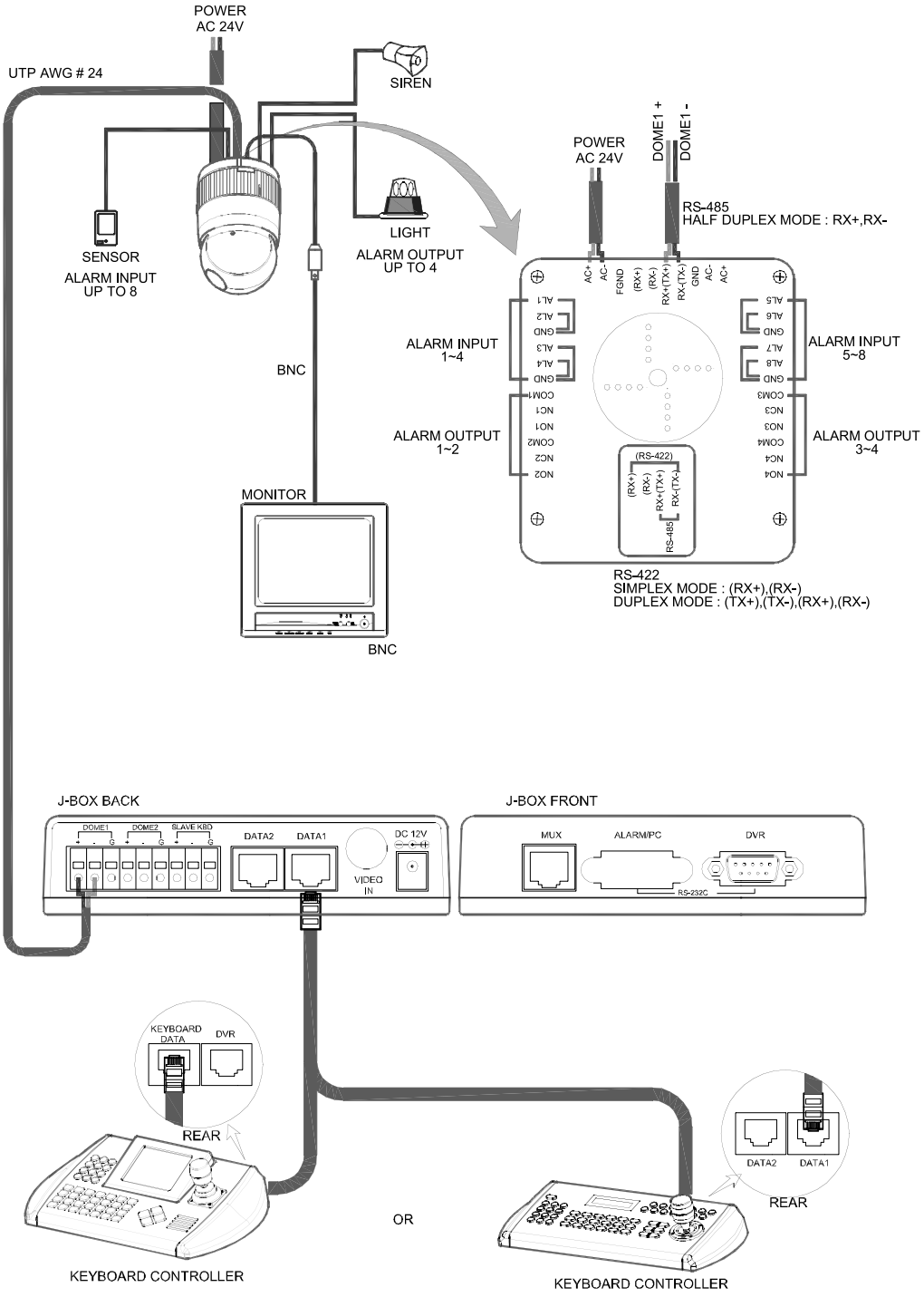


Figure 4- Basic installation diagram

The dome camera must be installed by qualified service personnel in accordance with all local and federal electrical and building codes.
The system should be installed according to Figures 4 through 9.

2.2.1 Single Multiplexer

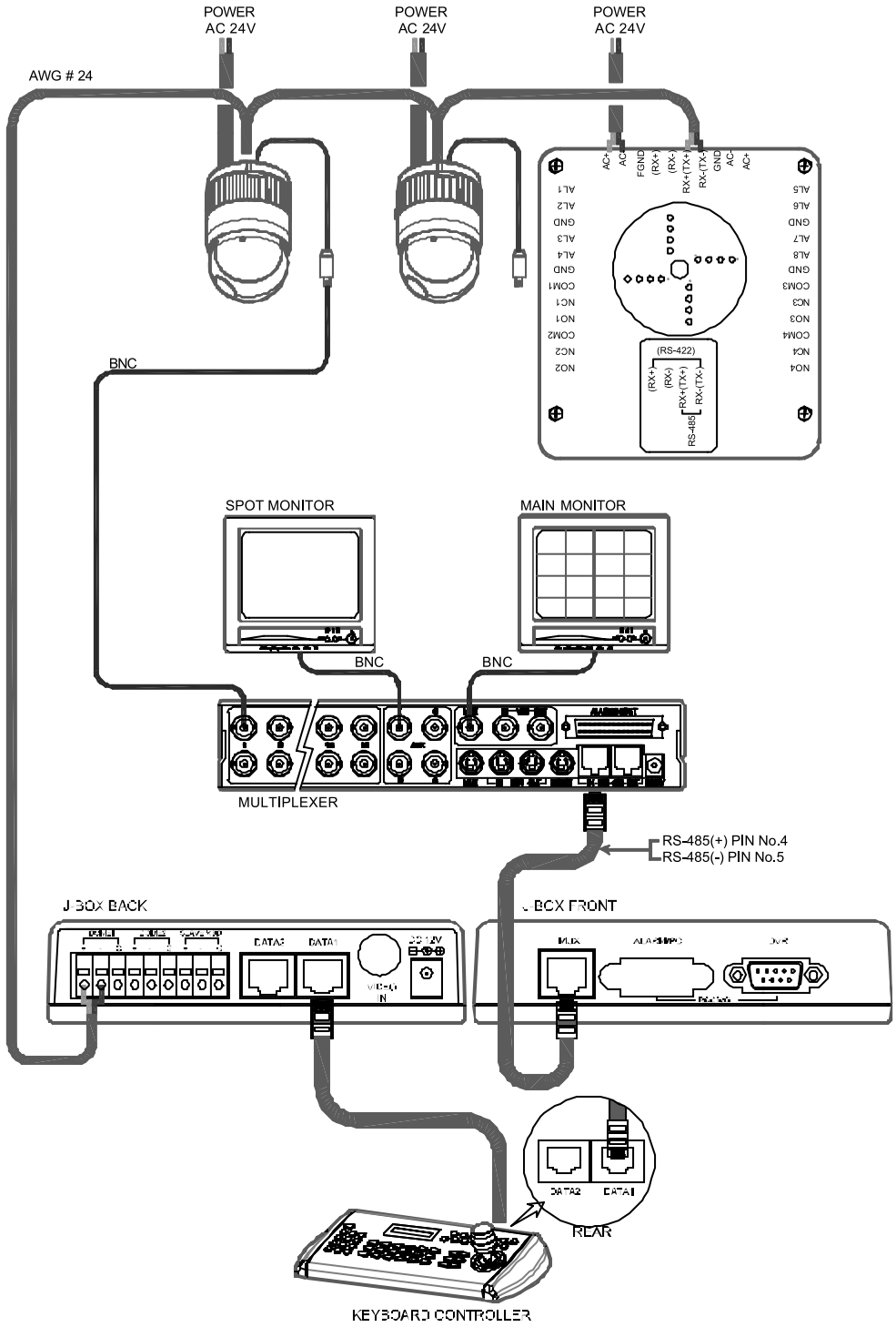


Figure 5 - Single Multiplexer

2.2.2 Single User with Two Multiplexer

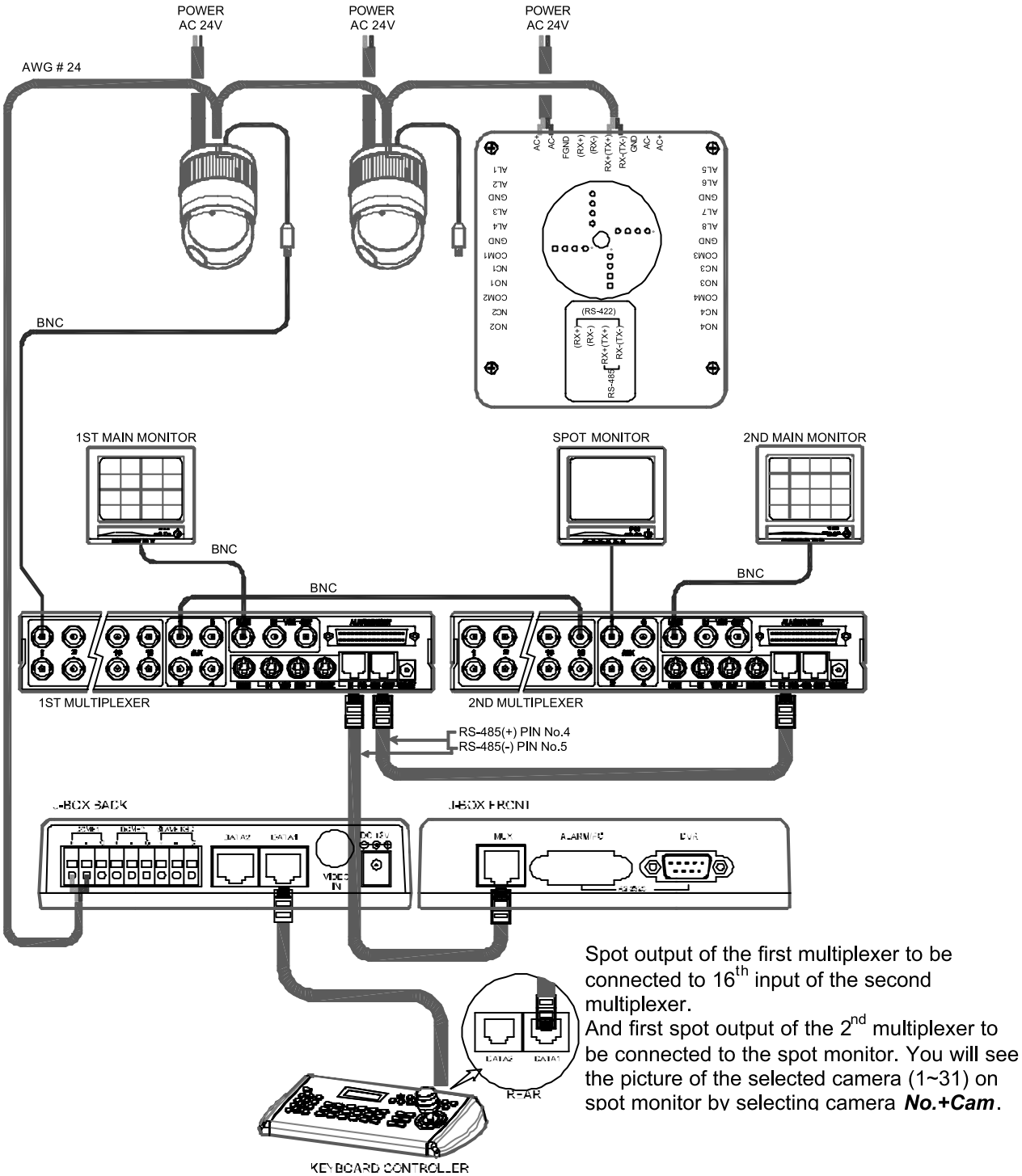
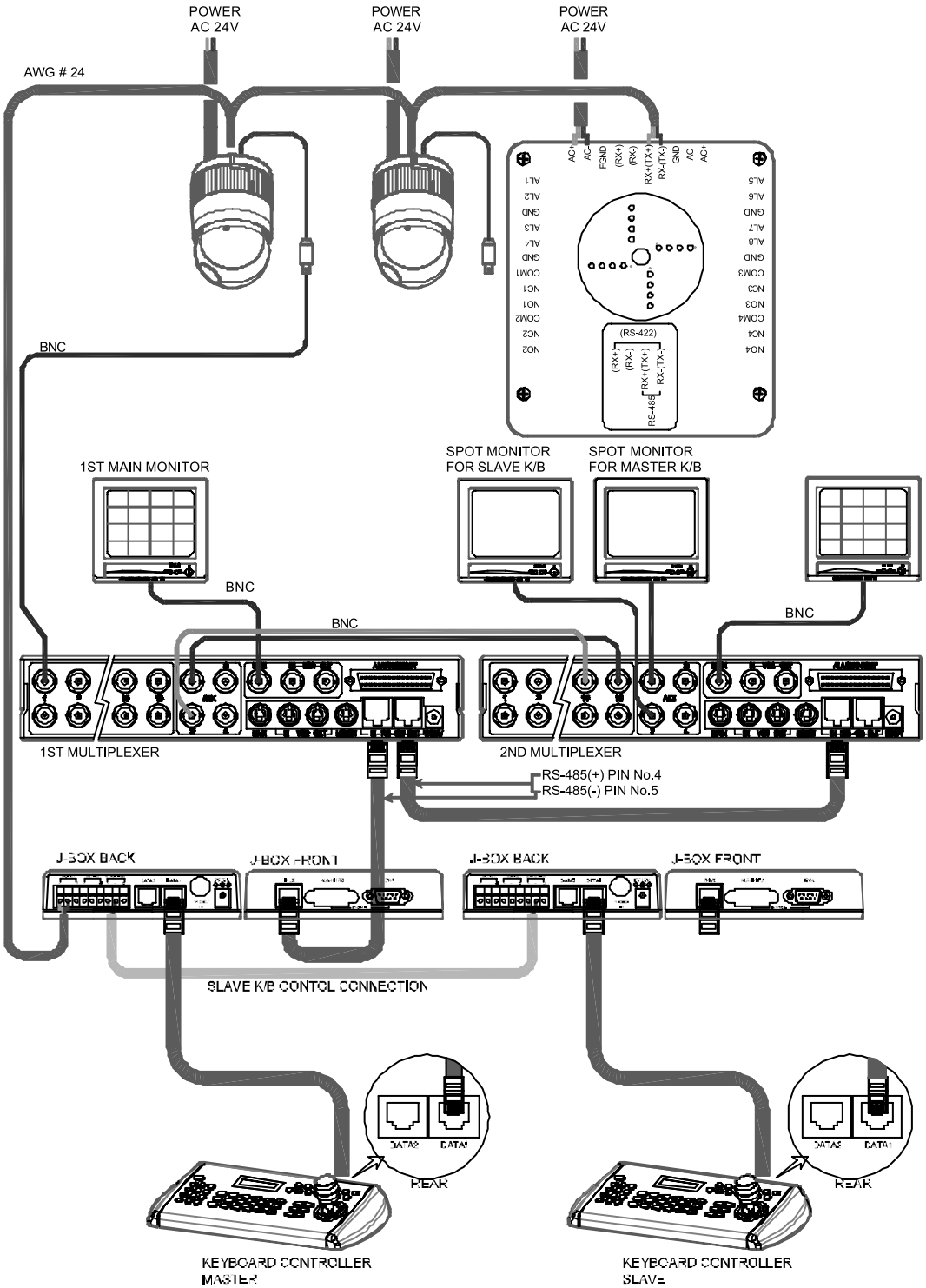


Figure 6 - Two Multiplexer

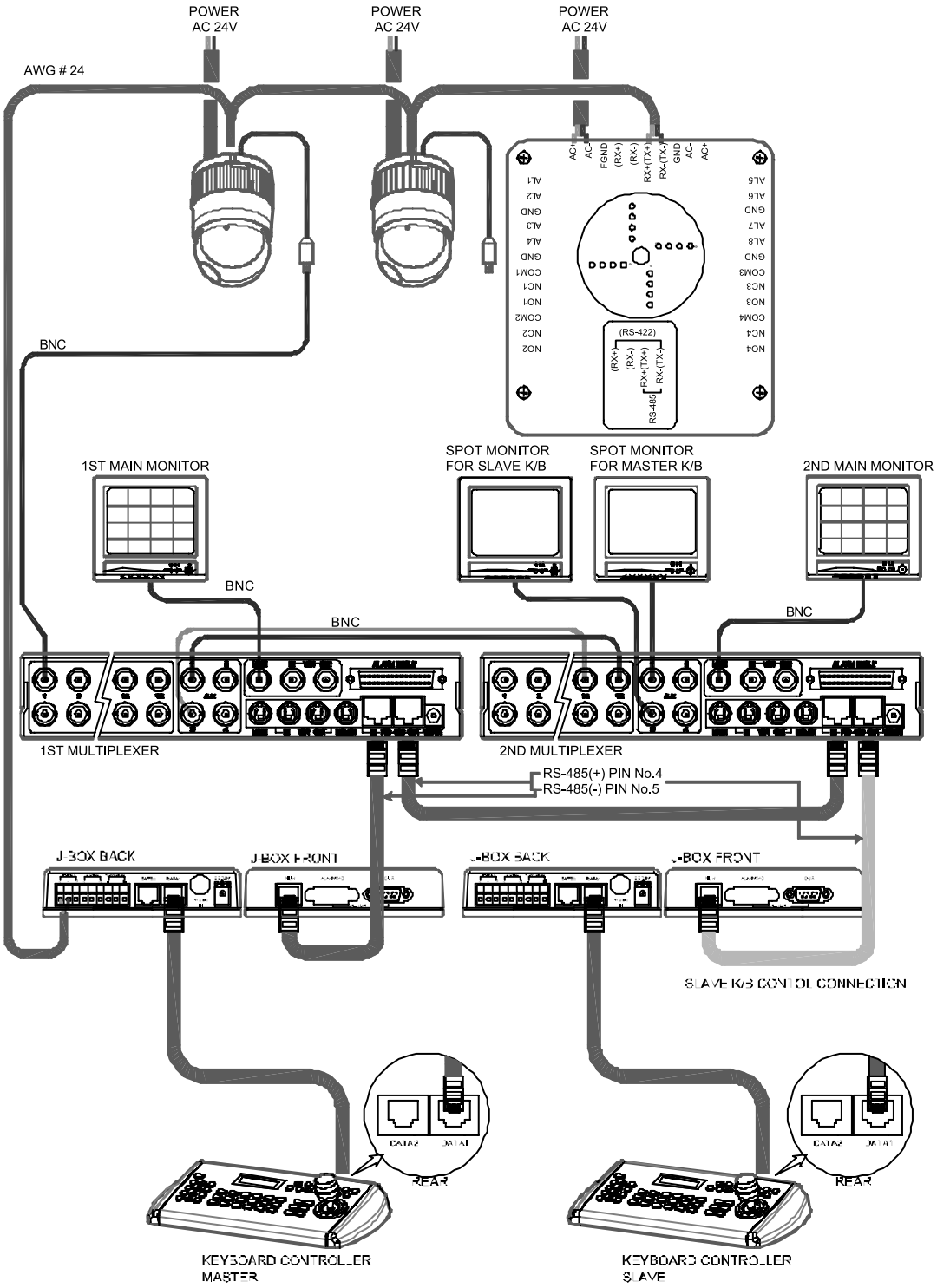
2.2.3 Two Multiplexer with Slave Keyboard Controller



Spot output 1 of the first multiplexer to be connected to 16th input of the second multiplexer. n: User, Spot out of nth to be connected to (15-n)th camera input of the 2nd multiplexer. nth spot out of the 2nd multiplexer to be connected to the nth use spot monitor. Each user will see the picture of the selected camera (1~(31-n)) on nth spot monitor of the Mux 2 by selecting camera ***No.+Cam***.

Figure 7 - Two Multiplexer with Slave Keyboard Controller

2.2.4 Two Multiplexer with Slave Keyboard Controller (method 2)



Spot output 1 of the first multiplexer to be connected to 16^{tn} input of the second multiplexer. n: User, Spot out of nth to be connected to (15-n)th camera input of the 2nd multiplexer. nth spot out of the 2nd multiplexer to be connected to the nth use spot monitor. Each user will see the picture of the selected camera (1~(31-n)) on nth spot monitor of the Mux 2 by selecting camera ***No.+Cam***.

Figure 8 - Two Multiplexer with Slave Keyboard Controller (method 2)

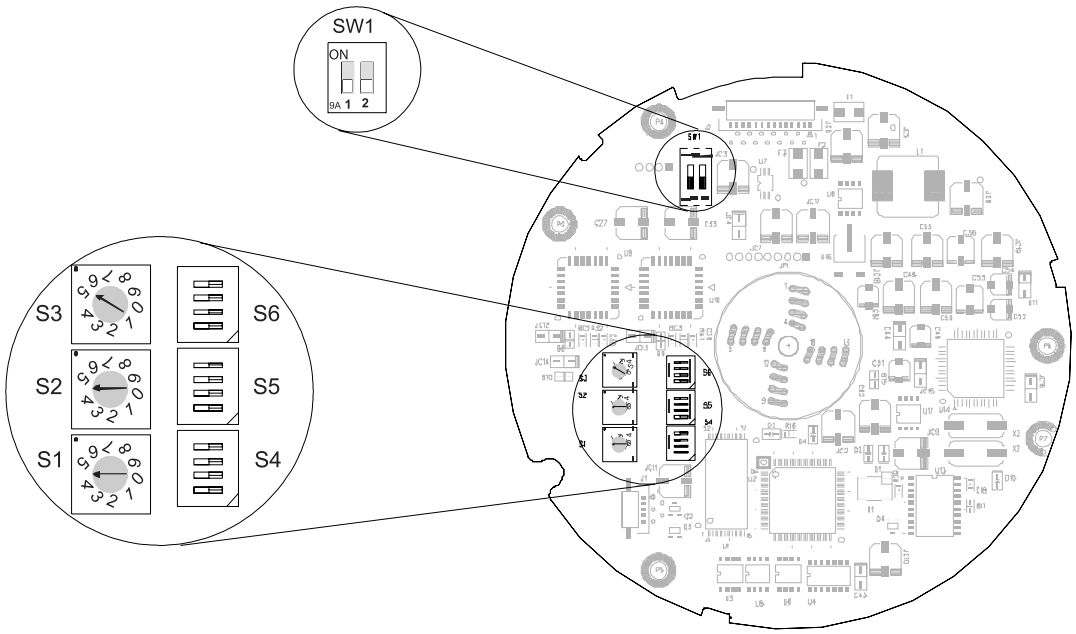
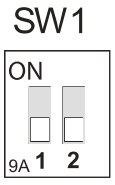


Figure 9 - Layout of Switches

2.3 Setting Unit for Termination

The device which is connected at end of line, whether it is a dome camera or keyboard controller, must be terminated by setting the appropriate DIP switch. Without proper termination, there is potential for control signal errors. Total length of the cable for communication should not exceed 1.2km.



SW1	1	2
Terminated	ON	ON
Not terminated	OFF	OFF

Figure 10 - Setting Unit for Termination

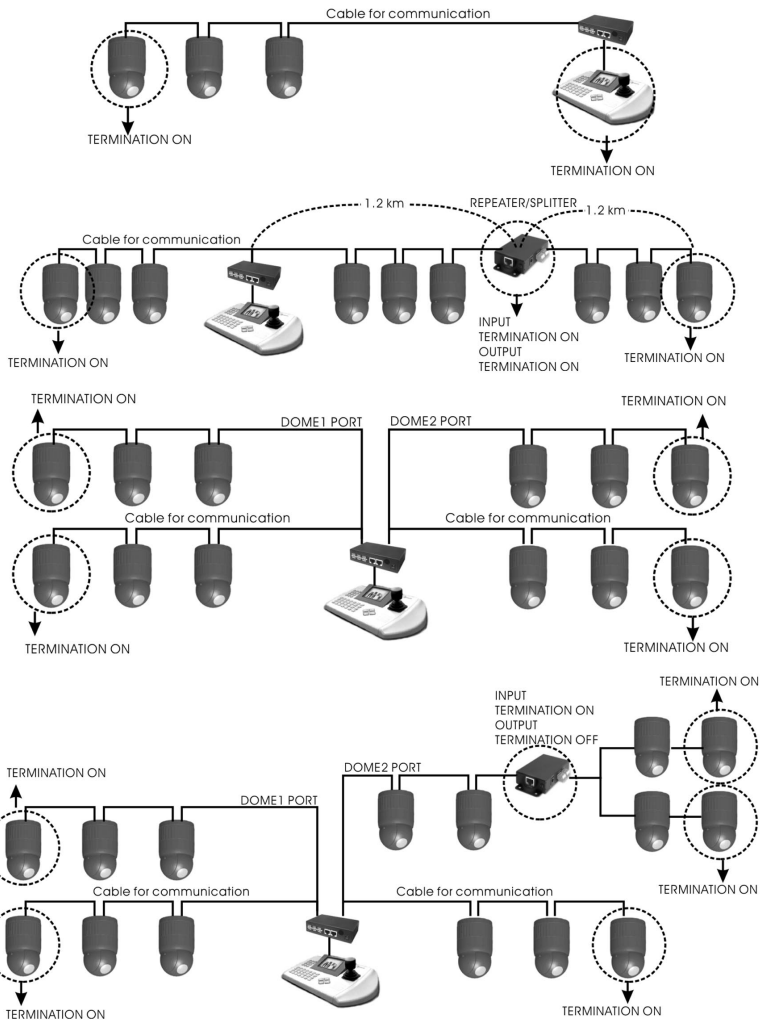


Figure 11 - Termination Diagram

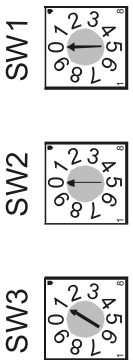
2.4 Setting Address (ID) of Dome Camera

To prevent damage, each dome camera must have a unique address (ID). When installing multiple dome cameras using a multiplexer, it is suggested that the dome camera address matches the multiplexer port number.

If you wan to set the address more than 999, you should connect the service provider.

Example: Port 1 = Dome 1, Port 2 = Dome 2 ... Port 16 = Dome 16. If more than 16 dome cameras are installed using two or more multiplexers, ID of the dome camera should be ID of MUX x No. of camera IN. (e.g. multiplexer ID= n, Camera IN= m then ID of Dome =16x(n-1)+m)

Refer to Figures 4-5 for setting the dome camera address (ID) and protocol selection.



Dome ID	SW1	SW2	SW3
1	1	0	0
2	2	0	0
...	...	...	...
999	9	9	9

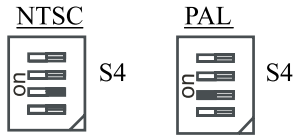
Beyond ID 999, contact your service provider.

Figure 12 - Setting Address (ID) of Dome Camera

2.5 Setting Protocol of Dome Camera

If a dome camera is to be installed with a Fastrax keyboard controller, select F2 protocol.

Consult service personnel if a dome camera is installed with device other than a keyboard controller.



S/W		On	Off	Function
D1	S4-1	Enable	Disable	Alarm
D2	S4-2	PAL	NTSC	NTSC/PAL
D3	S4-3			Reserved
D4	S4-4	RS-422	RS-485	RS-422/RS-485

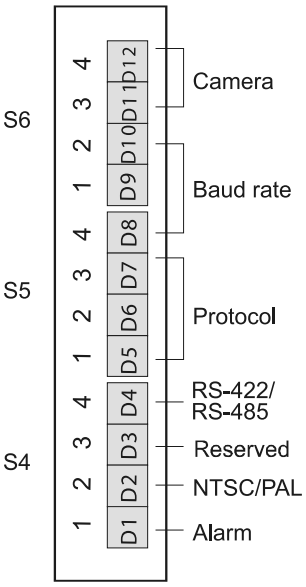


Figure 13 – Protocol Selection Switches

D5	D6	D7	**Protocol**
S5-1	S5-2	S5-3	
Off	Off	Off	F2,F2E,P,D,E & Ph Protocol (Default)
Off	Off	On	Reserved
Off	On	Off	S 422
Off	On	On	Reserved
On	Off	Off	V Protocol
On	Off	On	Reserved
On	On	Off	D Color
On	On	On	Reserved

D8	D9	D10	**Baud Rate**
S5-4	S6-1	S6-2	
Off	Off	Off	2400 bps
Off	Off	On	4800 bps
Off	On	Off	9600 bps (Default)
Off	On	On	19200 bps
On	Off	Off	38400 bps
On	Off	On	57600 bps
On	On	Off	115200 bps
On	On	On	230400 bps

Unless Baud rate match, universal protocol will not work.

D11	D12	**Camera**
S6-3	S6-4	
Off	Off	Default cameras (Default)
Off	On	Reserved
On	Off	Reserved
On	On	Reserved

2.6 Connections

- Connecting to the RS-485/-422

  The dome camera can be controlled remotely by an external device or control system, such as a control keyboard, using RS-485 half-duplex, RS-422 duplex or simplex serial communications signals. Connect Marked Rx+, Rx- to Tx+ and Tx- of the RS-485 control system.

  If control system is RS-422, connect Rx+ (Tx+), Rx+ (Tx-) and Rx+, Rx- of the dome camera to Tx+, Tx- and Rx+, Rx- of the control device respectively.

- Connecting Video out connector

  Connect the video out (BNC) connector to the monitor or video input.

- Connecting Alarms

  AL1 to 8 (Alarm In)

  You can use external devices to signal the dome camera to react on events. Mechanical or electrical switches can be wired to the AL (Alarm In) and GND (Ground) connectors. See Chapter 3 - Program and Operation for configuring alarm input.

GND (Ground)

  NOTE: All the connectors marked GND are common.

  Connect the ground side of the Alarm input and/or alarm output to the GND connector.

NC(NO)1 TO 4 (Normal Close or Normal Open: Alarm Out)

  The dome camera can activate external devices such as buzzers or lights. Connect the device to the NC(NO) (Alarm Out) and COM (Common) connectors. See Chapter 3 - Program and Operation for configuring alarm output.

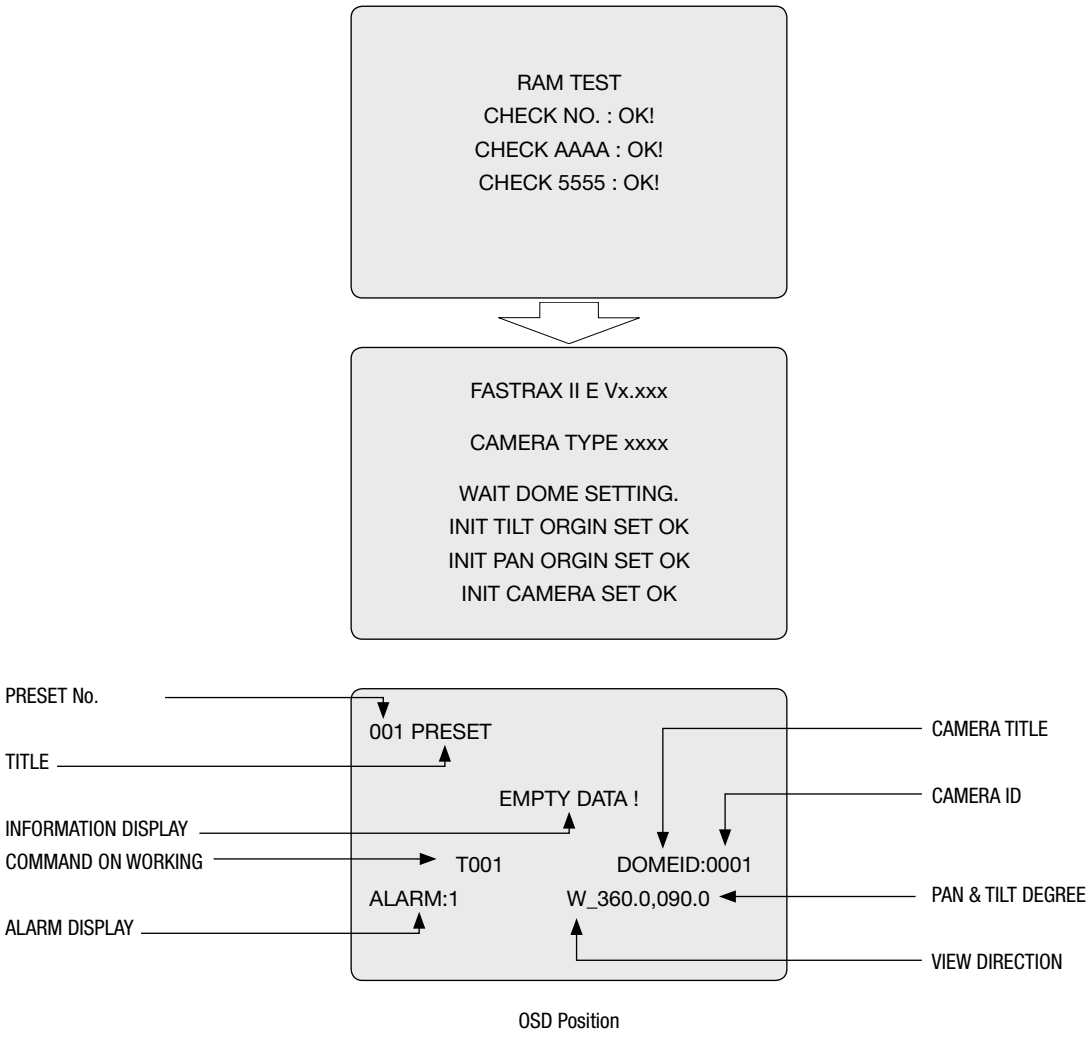
- Connecting the Power

  Connect the power of AC 24V 850mA to the dome camera.

  Use certified / Listed Class 2 power supply transformer only.

2.7 Getting Started

Once installed apply power to the dome camera. The dome camera will start a initializing sequence. When configuration is done, the following information is displayed on the keyboard controller's LCD.



OSD Position

3. Program and Operation

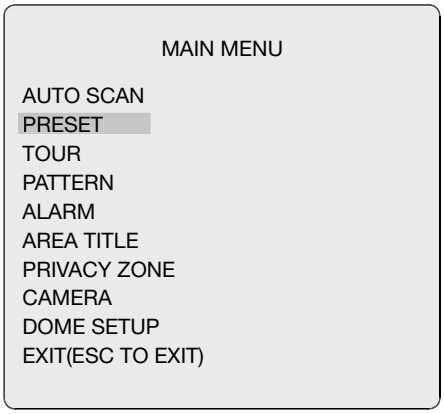
3.1 Selecting Dome Camera

Before you program or operate a dome camera, you must select the dome camera by pressing the dome camera **No.** + **CAM** successively.

Example: Pressing **1**, **0** and **CAM** key sequentially will select dome camera 10. The selected dome camera ID will be displayed on the LCD monitor of the keyboard controller.

3.2 Accessing On-Screen Menu Utility

You can call up the On-screen menu utility on your monitor by pressing **MENU** key on the keyboard controller, the following On-screen menu utility will appear:

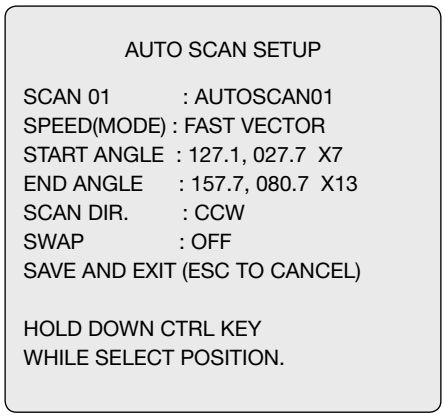


3.3 How to control On-Screen Menu Utility

Action	Function
MENU	Call on On-screen menu utility
Joystick left or right	Go into the sub-menu items. Execute the command(exit) Change value. Navigate through the menu items.
Joystick up or down	Navigate through the menu items.
Joystick down	Finish editing title. Same effect as **Enter** key
Zoom handle twist	Change value. Enter editing title mode at Preset menu.
CTRL + Joystick	**PTZ** control of the selected camera
ESC	Escape (EXIT)

3.4 Auto Scan (First Item of the Main menu / Shortcut: **Scan**)

The Auto scan supports up to 8 programmed angles at user-programmable speeds. Follow these steps to program Auto Scan:


AUTO SCAN SETUP
SCAN 01 : AUTOSCAN01
SPEED(MODE) : FAST VECTOR
START ANGLE : 127.1, 027.7 X7
END ANGLE : 157.7, 080.7 X13
SCAN DIR. : CCW
SWAP : OFF
SAVE AND EXIT (ESC TO CANCEL)
HOLD DOWN CTRL KEY
WHILE SELECT POSITION.

SPEED(MODE): NORMAL1~NOMAL9,SLOW VECTOR,FAST VECTOR

NORMAL1 (SLOWER) <—> NORMAL9 (FASTER)

SLOW VECTOR, FAST VECTOR: Move from start point to end point including tilt and zoom simultaneously and linearly.
In case of HID2404HCExxx model, zoom is fixed at more wide angle and the zoom magnification information is not displayed.

1. Press the **Scan** key to enter Auto Scan menu directly. Or press the **Menu** key to display the main menu on the monitor. Scroll to Auto Scan and push the **Joystick** to the right.
2. Select an Auto Scan number by pushing the **Joystick** left or right.
3. Twist the **Joystick** to enter the title by scrolling through the alphanumeric characters and pushing the handle to the right or left to move to the next space. Press **Enter** key or push the **Joystick** down to finish title mode
4. When finish entering the title, select „START ANGLE" with the **Joystick**. Hold down the **Ctrl/PGM** key while selecting the start position using the **Joystick**. Current panning position will be displayed. Release **Ctrl/PGM** key to complete the selection of the start position.
5. Push the **Joystick** downward to select „END ANGLE." Hold down the **Ctrl/PGM** key while moving the **Joystick** to select the end position. The end position angle should be larger than start position. Release the **Ctrl/PGM** key to complete the selection of the end position.
6. Push the **Joystick** downward to select „Tilt & Zoom." Set the zoom and tilt angle by holding down the **Ctrl/PGM** key.
7. Push the **Joystick** downward to select „Speed" and set the speed by twisting the **Joystick** clockwise or counterclockwise.
8. Select Save and Exit by pushing the **Joystick** to the right. Press **ESC** to exit the program without saving.

Pressing the **Home** key will delete stored angle data. Start/End angle will be turn to 000 immediately.

NOTE: Using the Tour mode in conjunction with preset and Auto Scan, you can make the camera travel from one preset position to another preset position at a specific speed. (Pan only)

a. Before entering the Auto Scan menu, select a preset position as a starting point for Auto Scan.

Example: 2 + Prst and do step 1 to 4. Instead of step 5, just press the **Ctrl/PGM** key at the start angle position, the current position will be displayed as a start position.

b. Save and exit from the menu.

c. In normal mode, call a preset to be the end point of scan. Press **3** + **Prst** then press **Scan** key to enter the Auto Scan menu. Move the cursor position to END ANGLE. Just press **Ctrl/PGM** key at the end angle position. Do step 7 to 9.

Example: Preset 001>002>003>004>005>006, Auto Scan 01 starts at 002, ends at 003, Auto Scan 02 starts at 005, ends at 006. Tour 001, 002, A01, 004, A02.

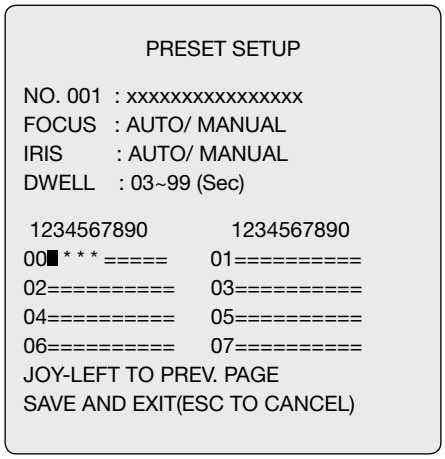
1 → 2 2~3 → 4 → 5~6 → 1 → 2 2~3 .....

Where → : Quick move, ~ : Programmed speed by Auto Scan.

3.5 Preset (Second Item of the Main menu / Shortcut: **Prst**)

If you need to view specific locations routinely, you should program presets. A preset is a programmed video scene with automatic pan, tilt, zoom, focus and iris settings. Once programmed, entering the number and pressing a preset button on your controller automatically calls up the preset. In addition, presets may be assigned to alarm actions or as the „home" position for the dome camera. As many as 240 presets, whose positions are saved in the dome's non-volatile memory, may be programmed.

There are three pages of preset menu, each page can hold 80 presets. Pages can be scrolled by pushing the **Joystick** to the left or right on the first or last No. of Preset.



x : 16 digits of title for preset label

= : blank preset position

* : position has the preset

■ : Current cursor position

Follow steps below to store the Preset positions:

1. Press **Menu** to display the main menu. Select the Preset option by using the **Joystick** to the right. (Press **Prst** to go directly to the Preset menu without going through the main menu.)
2. Select the blank preset position to be stored by pushing the **Joystick** up, down, right, or left.
3. The position, which is marked with ■, already has the preset view assigned. To review the stored preset, press **Prst** key on the ■ The camera will show the stored preset view.
4. After selecting a blank position, press and hold **Ctrl/PGM**, use the **Joystick** to control the direction of the camera and lens.(**Ctrl+Joystick**)
5. After aiming the camera (view direction and lens control), release **Ctrl/PGM**. Then twist the Joystick handle or Press **Tele** or **Wide Key** to store the selected view. The position number will be displayed and the user will be prompted to enter a preset title.
6. Enter the title for the preset position using the **Joystick**. (Rotate handle clockwise and counterclockwise or press **Tele** or **Wide** Key to scroll through the alphanumeric characters, push the handle to right or left to select next or previous digit.)
7. When you are finished entering the title, push the **Joystick** downward. Set the focus by pushing the **Joystick** to the right or left. Set the IRIS value in the same manner as the focus.
8. Move to the DWELL setting by pushing the **Joystick** down. Twist the **Joystick** clockwise or counterclockwise to increase or decrease dwell time of the preset position.
9. To select the next page of presets, scroll the page by pushing the **Joystick** to the left on the first and last columns of the menu.
10. Repeat steps 2 through 7 for each additional preset position.
11. To edit the title of a stored preset, use the **Joystick** to position the cursor on the desired preset position. Press the Prst key to recall the stored preset. Twist the zoom handle clockwise to enter the preset title, focus and IRIS. Preset titles are useful with short cut preset programming. Refer to Shortcut programming below.
12. Select Save and Exit by pushing the **Joystick** to the right. Press **ESC** to exit the Preset menu without saving.

NOTE: Press the Home key at programmed position to delete a programmed preset view.

3.6 Shortcut of Preset Program

Select a view to be stored (direction of the camera, zoom and focus), then press No. (**1** to **240**), and then press **Pgm**, **Prst** subsequently. The current view will be stored to the selected preset number if position is empty. If selected preset number is not empty, „PRESET EXISTING" message will be displayed on the monitor and ask to overwrite.

Example: 1, **0**, **1** + **Pgm** + **Prst** will store current view as preset No. 101. In this case, focus and Iris mode will be programmed as Auto, dwell time will be set to 3 sec.

3.7 Tour (THIRD ITEM OF THE MAIN MENU / SHORTCUT: **Tour**)

There are 8 programmable Tours. Each Tour consists of up to 42 Preset positions, Patterns, Scans or other Tours (second-level). Using second-level Tours, it can be expanded to over 300 functions in a single Tour. However Tours in second level Tour will be ignored when called by a Tours. The following example illustrates this concept:

If Tour1 has Preset1 → Preset2 → Tour2 → Tour3 and
Tour2 has Preset3 → Preset4 → Tour4 → Preset5 and
Tour3 has Preset6 → Pattern and
Tour4 has Preset7.

Tour1 executes as follows:
Preset1 → Preset2 → Preset3 → Preset4 → Preset5 → Preset6 → Pattern1 →
Preset1 → ... (Repeat)

Tour2 executes as follows:
Preset3 → Preset4 → Preset7 → Preset5 → Preset1 ... Repeat
(Tour4 is still valid if called directly from Tour2.)

```
TOUR 01     : xxxxxxxxxxxxxxxx
SCAN TYPE : NORMAL
DWELL       : 03

=== === 003 === === === ===
A08 === === === === === ===
=== T02 === 001 === === ===
=== === === T08 === === ===
=== === === === === === ===
=== === === === === === ===
SAVE AND EXIT ( ESC TO CANCEL)
PRESS FUNCTION KEY AND THEN ZOOM
KEY TO SELECT FUNCTION NO
```

xxxxx : 16 digits of title for tour label
=== : blank preset position
SCAN TYPE : Max (Normal)/ Slow V. Scan/ Fast V. Scan
DWELL : 03-99 Sec
003 : Preset 003 (1~240)
A08 : Auto Scan 08 (1~8)
P01 : Pattern 01 (1~4)
T02 : Tour 02 (1~8)

Follow the steps below to program the Tours:

1. Press **Menu** to display the main menu on the monitor. Scroll to Tour and push the **Joystick** to the right to enter the Tour menu. Or just press the Tour key on the keyboard
2. Choose an empty location to be programmed by pushing the **Joystick** up, down, right, or left.
3. To see a stored preset view, use the **Joystick** to move the cursor to a stored position. By pressing **Prst** key, the camera will move to the stored Preset view.

4. To add a stored preset as a Tour, twist the Zoom handle or press Zoom Key (Programmed preset will scroll). To remove a stored preset from the Tour, press the Home key, blank position mark (===) will be displayed. You can overwrite the programmed position.
5. To place functions other than preset, press Tour, Ptrn, or Scan for Tour, Pattern or Auto Scan respectively and the use **zoom** handle or key to select No.
6. Repeat Step 2 through 5 for each desired position. Each title will be displayed on top of the line.
7. Up to 36 Presets, Tours, Patterns Scans can be selected for a Tour. You can expand the **Tour** sequence by calling other programmed tours. Push the **Joystick** handle to right or left while the cursor is on the top of the line (TOUR 01) to select another page of the Tour menu. (TOUR 01)
8. You can enter a title for the selected Tour by twisting the **Joystick** while the cursor is on the top of the line (TOUR 01). Rotate the handle clockwise or counterclockwise to scroll through the alphanumeric characters. Push the handle to the right or left to select the next or previous digit.
9. Select Save and Exit by pushing the **Joystick** to the right. Press **ESC** to exit the program without saving.

NOTE: Press the Home key at a programmed position to delete programmed function. In the Tour mode, in conjunction with preset and Auto Scan, you can make the camera travel from a preset position to another preset position at a specific speed.

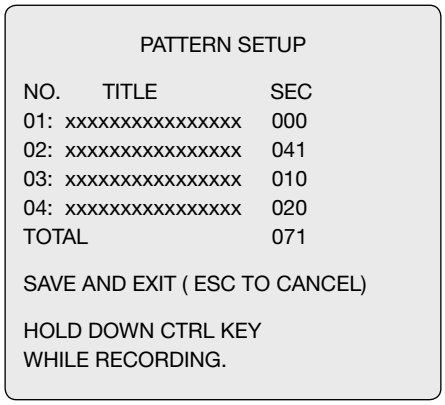
Example: Preset 001>002>003>004>005>006, Auto Scan 01 starts at preset 002, ends at preset 003, Auto Scan 02 starts at preset 005, ends at preset 006; Tour 001, 002, A01, 004, A02.

1 → 2 2~3 → 4 → 5~6, repeat

where → : Quick move, ~ : Programmed speed

3.8 Pattern (Fourth 4 Item of the Main menu / Shortcut: **Ptrn**)

The Pattern feature records user control of the selected dome camera for up to 240 seconds. Up to four 4 patterns can be stored and played back by pressing No.+ **Ptrn** keys subsequently.



Follow steps below to program the Pattern:

1. Press **Menu** key to display the main menu on the monitor.
2. Scroll down to PATTERN and push the **Joystick** to the right. Or simply press the **Ptrn** key rather than use the Main Menu.
3. Select the empty Pattern number to be programmed by pushing the **Joystick** up or down. If last column is not 000, a pattern has already been recorded. Patterns can be over written.
4. Press and hold down the **Ctrl/PGM** key while controlling the camera direction and zoom with the **Joystick**. Your controls will be automatically recorded until you release the **Ctrl/PGM** key. You can repeat this procedure until you have the pattern you want. Previously recorded patterns will be overwritten each time you do this.
5. Scroll down to the Save and Exit option and push the **Joystick** to the right to save and exit.
6. You can title the selected Pattern by twisting the **Joystick**. Rotate the handle clockwise or counterclockwise to scroll through the alphanumeric characters, push the handle to right or left to select next or previous space.
7. Pressing **ESC** will not save your information and exits to the previous mode.

Press the **Home** key at any programmed position to delete the programmed pattern.

NOTE: If total recording time reaches 240 seconds, it will automatically stop for a moment and restart recording. Previous data will be overwritten.

3.9 Alarm (This menu shows on only specific model, Fifth Item of Main menu)

ALARM SETUP

NO	PRIO	PRS	IN	OUT	HOLD	LATCH
01	1	001	OFF	OFF	03	OFF
02	8	001	OFF	OUT1	03	OFF
03	1	240	NO	OUT1	03	OFF
04	2	001	NC	OUT4	03	OFF
05	1	001	OFF	OFF	03	OFF
06	8	001	OFF	OUT1	03	OFF
07	1	240	NO	OUT1	03	OFF
08	2	001	NC	OUT4	03	OFF

SAVE AND EXIT (ESC TO CANCEL)

NO : Alarm input number

PRIO : Lower No. has higher priority, Equal priority alarms will be serviced repeatedly.

PRS : Stored preset number to be called by alarm.

IN : NO/NC - normally open /Closed OFF - ignore

OUT : OUT1~OUT4 - Relay out 1,2,3,4, OFF - No output.

HOLD : Alarm will be held for programmed time (01 to 99 seconds)

LATCH : ON - Shows all alarms including past alarm, OFF - Shows activated alarms only.

There is one „0" PRIO which is the highest priority. „0" priority can choose Autoscan, Pattern or Tour. When responding „0" priority alarm, there is no respond other alarm until finishing „0" priority action

1. Press **Menu** to display the main menu on the monitor. Select the Alarm option by pushing the **Joystick** up or down and push to right to enter the detail menu.
2. Select the alarm input number by pushing the **Joystick** up or down and select the column you wish to setup. Selected position will be highlighted.
3. Select the Preset, Status of Input (NC/NO/OFF), and Output (OUT1~4/OFF) by pushing the **Joystick** to the right or to the left.
4. To increase or decrease the preset number or to change the status or output number, twist the **Joystick** clockwise or counterclockwise. In case of preset, programmed preset number will be scrolled.
5. Select the Save and Exit option by pushing the **Joystick** up or down. Save and exit the program by pushing the **Joystick** to the right. Press **ESC** to exit the program without saving.

3.10 Area Title (Sixth Item of Main menu)

Enter a specific name on programmed angle between START and END. For the screen below, when the camera points at an angle between 124.3° to 359.5°, ABC will be displayed on the screen.

ALARM TITEL SETUP

NO	TITLE	START	END
01	ACB	124.3	359.5
02	xxxxxxxxxxxxxxxx	=====	=====
03	xxxxxxxxxxxxxxxx	=====	=====
04	xxxxxxxxxxxxxxxx	=====	=====
05	xxxxxxxxxxxxxxxx	=====	=====
06	xxxxxxxxxxxxxxxx	=====	=====
07	xxxxxxxxxxxxxxxx	=====	=====
08	xxxxxxxxxxxxxxxx	=====	=====

SAVE AND EXIT (ESC TO CANCEL)
HOLD DOWN CTRL KEY
WHILE SELECTIONG SECTION

Pages can be scrolled through by pushing the **Joystick** to the left or right on the first or last column of the menu. Pushing the **Joystick** to left on the „NO" column (01 ~ 08) of the menu to scroll to the previous page. Push the **Joystick** to right on the „END" column to go to the next page.

1. Press **Menu** to display the main menu on the monitor. Select the Area Title option by pushing the **Joystick** up or down and push to right to enter the detail menu.
2. Select the area number by pushing the **Joystick** up or down. Select Start, End or number column to be set by pushing the handle to the right or left. The selected column will be highlighted.
3. To enter area title, select the number column and rotate the handle clockwise or counterclockwise. You can select alphanumeric characters by rotating the handle. Move to the next character by pushing the **Joystick** to the right. To finish entering the title, push the **Joystick** down.
4. To adjust panning limit, press the **Ctrl/PGM** key and hold down. Then use the **Joystick** to aim the desired direction. The end limit must be in an increasing direction. (Start < End).
5. When you press the **Ctrl/PGM** key, the current position of the pan will be displayed in the highlighted column. With this feature, you can easily set the next start point as the previous end point.
6. Select the Save and Exit option by pushing the **Joystick** up or down. Save and exit the program by pushing the **Joystick** to the right. Press **ESC** to exit the program without saving.

Pressing the **Home** key will delete programmed data. (Angles will be turned ==== immediately.)

3.11 Privacy Zone (Seventh Item of Main menu)

Hide up to 8 unwanted views in a camera.

PRIVACY ZONE SETUP

NO	TITLE		METHOD
01	xxxxxxxxxxxxxxx	ON	BLOCK
02	xxxxxxxxxxxxxxx	OFF	V.OFF
03	xxxxxxxxxxxxxxx	NONE	====
04	xxxxxxxxxxxxxxx	NONE	====
05	xxxxxxxxxxxxxxx	NONE	====
06	xxxxxxxxxxxxxxx	NONE	====
07	xxxxxxxxxxxxxxx	NONE	====
08	xxxxxxxxxxxxxxx	NONE	====

SAVE AND EXIT (ESC TO CANCEL)
HOLD DOWN CTRL KEY
WHILE SELECTION ZONE TO BE MASKED.

1. Press **Menu** to display the main menu on the monitor. Select the Privacy Zone option by pushing **Joystick** up or down and push to right to enter the detail menu.
2. Select the privacy zone number by pushing the **Joystick** up or down.
3. To enter the zone name, rotate the handle clockwise or counterclockwise. You can select alphanumeric characters by rotating the handle. Move to the next character position by pushing the **Joystick** to the right. To finish entering the title, push the **Joystick** down or press the **Enter** key.
4. To adjust the „marked" (privacy) area, press and hold down the **Ctrl/PGM** key and then use the **Joystick** (direction and zoom) until you get desired view. Release the key, the right column will be set to ON.
5. You can overwrite an existing zone. Use the **Home** key to delete the marked zone, or push the **Joystick** to the right or left to turn the stored zone On or Off.
6. Select the Save and Exit option by pushing the **Joystick** up or down. Save and exit the program by pushing the **Joystick** to the right. Press **ESC** to exit the program without saving.

Press the **Home** key to delete programmed privacy zone.

3.12 Camera (Eighth Item of Main menu)

NOTE: The menu features will vary depending on the camera module installed in your dome camera.

```
CAMERA SETUP

FOCUS CONTROL
WB CONTROL
AE CONTROL
LINE LOCK CONTROL
SHARPNESS     : 9
BACK LIGHT    : OFF
DIGITAL ZOOM  : OFF/2x/4x/ MAX
NIGHT SHOT CONTROL (optional)
SAVE AND EXIT(ESC TO CANCEL)
```

SHARPNESS	The higher the value, the more edges in the picture will be enhanced (0~15).
BACK LIGHT	Objects in front of bright backgrounds will be clearer with BLC ON.
Digital ZOOM	OFF : Zoom range is limited to the optical.
2x :	Zoom is extendable up to 2x of digital range.
4x :	Zoom is extendable up to 4x of digital range.
MAX:	Zoom is extendable Max digital Zoom range.

- **FOCUS CONTROL**

```
FOCUS SETUP

MODE             : AUTO
AF SENSITIVITY   : HIGH
SAVE AND EXIT(ESC TO CANCEL)
```

MODE :	AUTO / MANUAL Use manual mode in normal use.
AF SENSITVITY:	HIGH / LOW
HIGH:	Use this option when shooting fast motion.
LOW:	Offers better focus stability. In low luminance conditions, Auto Focus stops operation even when brightness changes, enabling stable images of moving objects.

- **CAUTION: Avoid continuous, 24-hour use of the auto focus. This may cause the lens to malfunction, and it will shorten the lifespan of the lens.**
- **WB (white balance) CONTROL**

```
WB SETUP

MODE : AUTO
R GAIN : 210
B GAIN : 155
SAVE AND EXIT(ESC TO CANCEL)
```

MODE	MANUAL / AUTO / INDOOR / OUTDOOR / ONE PUSH / ATW
RGAIN	0 ~ 255
BGAIN	0 ~ 255

Use the ATW mode for normal use.

RGAIN / BGAIN modes are controllable only in MANUAL Mode

Push the **Joystick** to the right or left to change.

NOTE : „ONE PUSH" means that when rotating the Joystick handle for a moment the lens moves to adjust the focus for the subject. The focus lens then holds that position until the next rotating the Joystick handle.

- **AE CONTROL**

```
AE SETUP

MODE            : FULL AUTO
SLOW SHUTTER    : MANUAL
IRIS            : F2.4
GAIN            : 0 DB
BRIGHT          : 14
SHUTTER         : 1/60
SAVE AND EXIT(ESC TO CANCEL)
```

MODE	FULL AUTO / MANUAL / SHUTTER PRIO / IRIS PRIO / BRIGHT
SLOW SHUTTER	AUTO / MANUAL ----- AUTO effects only FULL AUTO mode
IRIS	CLOSE / F22 / F19 / F16 / F14 / F11 / F9.6 / F8.0 / F6.8 / F5.6 / F4.8 / F4.0 / F3.4 / F2.8 / F2.4 / F2.0 / F1.6 / F1.4
GAIN	0 / 2 / 4 / 6 ..... / 28 / -3 DB
BRIGHT	0, 2, 3, 4 ..... 29, 30
SHUTTER	1/1 , 1/2 , 1/4(3), 1/8(6). .. 1/4000, 1/6000, 1/10000
SAVE AND EXIT (ESC TO CANCEL)	

NOTE : Values in ( ) are for PAL Camera. The value is different according to the model.

- **LINE LOCK CONTROL**

```
LINE LOCK MENU

MODE  :     INTERNAL
PHASE :     125
EXIT (ESC TO EXIT)
```

MODE	INTERNAL / EXTERNAL	Adjusts phase of picture with other
PHASE	0~255	cameras in EXTERNAL mode.
EXIT (ESC TO EXIT)		

- **NIGHT SHOT MENU**

The NIGHT SHOT option removes the IR cutoff filter of the camera and makes the camera sensitive to near infrared. This will set the BLACK & WHITE option to ON automatically.

The operator can enable NIGHT SHOT for all dome cameras at the same time.
If the NIGHT SHOT mode is set to GLOBAL, „**9 9 9**„ + **Enter/Glbl** will turn Off the NIGHT SHOT mode
„**8 8 8**" + **Enter/Glbl** will turn On the NIGHT SHOT mode.

```
NIGHT SHOT SETUP

MODE            : MANUAL
LOCAL CONTROL   : OFF
EXIT (ESC TO  CANCEL)
```

MODE	MANUAL / AUTO / GLOBAL
AUTO:	Camera goes in to B&W mode at low light.
GLOBAL:	Controlled by remote (**888/999 + EnterGlbl**).
MANUAL	CONTROL ON / OFF
MANUAL:	ON/OFF will enable and disable Night Shot mode of an individual camera.

3.13 Dome Setup (Ninth Item of Main menu)

```
CONFIGURATION MENU

HOME FUNCTION SETUP
OSD DISPLAY
VIEW ANGLE SETUP
INITIALIZE DATA
ORIGIN OFFSET
DOME RESET
SYSTEM INFORMATION
EXIT(ESC TO EXIT)
```

- **HOME FUNCTION SETUP**

After a dome control menu item has been selected, follow the directions below to set the function.

```
HOME FUNCTION SETUP

HOME FUNCTION      : NONE
FUNCTION NUMBER  : ---
WATING TIME          : 120SEC
FUNCTION ENABLE   : OFF
SAVE AND EXIT(ESC TO CANCEL)
```

HOME FUNCTION	: None/ Preset/ Tour/ Pattern/ Auto Scan
FUNCTION NUMBER	: xxx
WAITING TIME	: 10~240 Seconds
FUNCTION ENABLE	: ON/ OFF

The Home function can be set so that the camera automatically goes to Preset, Tour, Pattern, Auto Scan after the keyboard controller has been idle for a amount of time. For example, if the **Joystick** controller is idle for 10 seconds, the camera goes to preset 1.

Follow these steps to program the Home position:

1. Press **Menu** to display the main menu on the monitor.
2. Select Home Function by pushing the **Joystick** to the right or to the left to scroll through the None, Tour, Pattern, Auto Scan and Preset functions.
3. Select Function Number by pushing the **Joystick** down, and push the **Joystick** to the right or to the left. The executable function number will scroll. Each function has maximum numbers. For example, you can have 240 Presets, 8 Tours, 4 Patterns and 8 Auto Scan options.
4. Select Function Time by pushing the **Joystick** down. Push the **Joystick** to the right or to the left to select from 10 to 240 seconds.
5. Select Function Enable by pushing the **Joystick** down. Turn the Home Enable ON or OFF by pushing the **Joystick** to the right or to the left.

- **OSD DISPLAY**

```
DISPLAY SETUP

CAMERA TITLE          : XXXXXXX
VIEW DIRECTION       : OFF
DOME OSD DISPLAY   : ON
AREA DISPLAY          : OFF
TILT OVER ANGLE      : W/O BUBBLE
FILP                        : ON
SAVE AND EXIT(ESC TO  CANCEL)
```

CAMERA TITLE	: 8 CHARACTER CAN BE SET
VIEW DIRECTION	: ON / OFF
DOME OSD DISPLAY	: ON / OFF
AREA DISPLAY	: ON / OFF
TILT OVER ANGLE	: ON / WITH BUBBLE / W/O BUBBLE
FILP	: ON / OFF

- **VIEW DIRECTION**

„ON" sets current direction as N(north) and the coordinate angle to 000. „OFF" hides the directional title. Every 90 degrees of clockwise rotation will change the title to E(East), S(South), W(West). If using the ON/OFF option frequently, it is recommended that you set „North" as a Preset. Recall the „North" Preset before enabling the directional title.

- **DOME OSD DISPLAY**

All display or title will disappear when DOME OSD DISPLAY sets OFF

- **AREA DISPLAY**

If this option is enabled, the nearest area title will be displayed when the camera is moving whether by manual operation, Auto Scan, or Pattern. Select ON or OFF by pushing the **Joystick** to the right or to the left. The Dome camera's OSD option will override this function (Dome camera's OSD must be enabled).

- **VIEW ANGLE SETUP**

OSD VIEW ANGLE SETUP

PANNING RANGE
FLIP : ON
TILT OVER ANGLE : W/O BUBBLE
STABILIZER : ON (OFF)
SAVE AND EXIT (ESC TO CANCEL)

- **STABILIZER**

When the Image Stabilizer Function is ON, it helps in obtaining a stable image free of vibration caused by jarring movements. For a vibration frequency of around 10Hz, correction is approximately 90% (HID2404SHE11X model only).

- **PANNING RANGE**

When the dome camera is installed near wall, panning range could be programmed by user.

PANNING RANGE MENU

RIGHT LIMIT : 000.0
LEFT LIMIT : 000.0
ENABLE : OFF
SWAP RIGHT/LEFT
SAVE AND EXIT(ESC TO CANCEL)

- **TILT Over Angle**

This option is used to set the limit of the horizontal view angle so that the trim ring or ceiling does not obstruct the horizontal image when zooming out (wide angle).

ON: In some installations it is desirable for the dome camera to be able to see the above horizon. When this option is chosen, the dome will tilt up over the horizon(About 10 degree). When the lens is zoomed out, you can see the ceiling line. But when the lens is zoomed in the viewing angle is narrower, and the ceiling line disappears.

Without Bubble: The tilt range of the camera is limited to see the horizon so the picture shows part of the ceiling line.

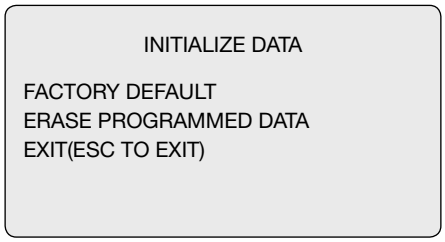
With Bubble: The tilt range of the camera is limited to see below the horizon (- 10 degrees). Over Angle is not sufficient enough to avoid ceiling obstructions, please adjust Origin Offset of tilt angle as described below.

- **FLIP**

Allows the dome camera to automatically turn 180 degrees when the camera tilts to its lower position.

When camera reaches floor alone moving object, it will stop. Release the **Joystick** handle instantly and then pull down to run flip fucntion. The speed of following object will be same speed as previous.

- **INITIALIZE DATA**



Erase all stored data from the Flash-ROM of the selected dome camera. You will be asked to enter Yes or No. If you intend to erase all data then press the Menu key, otherwise press the **ESC** key to exit without erasing. The erased data includes all stored data (titles, presets, and tours....) except origin offset.

The offset value is still valid after all data is erased. The offset value can be zero only with default set of Offset origin menu.

CAUTION: All the data in the selected dome camera will be lost unless you download the data into a safe place. (Refer to Download/ Upload data function in Keyboard Configuration utility.) Data from the selected dome camera can be stored in the keyboard controller temporarily. If you want to save the data of all installed dome cameras, you need a special I/O interface and software for PC.

- **ORIGIN OFFSET**

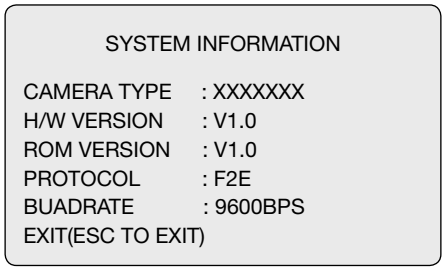
This feature is useful to align a replaced dome camera to the exactly same position as the previously installed dome camera.

Dome camera's origin set and all data initialize option do not override offset values. Only the default set option in this menu will set the offset value to zero. This can be used to avoid ceiling obstructions.

- **DOME RESET**

This feature is used to re-calibrate the orientation of a selected dome camera. Origin offset value is not affected by this function.
(Offset is still valid after origin set)

- **SYSTEM INFORMATION**



A Dome camera's Setup menu provides essential information about the dome camera when service is required. When you view this screen, you can determine the camera type, ROM version.

The information on this screen cannot be modified.

4. Troubleshooting

If problems occur, verify the installation of the camera with the instructions in this manual and with other operating equipment. Isolate the problem to the specific piece of equipment in the system and refer to the equipment manual for further information.

Problem	Possible Solution
No video	Verify that power is connected to all pieces of equipment in the system. Verify that the power switches are in the ON position. Check the video connections (see Figures 4).
Poor video quality	Check that the BNC connectors are inserted properly. Check the voltage level of the dome camera. Check that 8 pin cable is connected to the Keyboard. Check 8 pin cable for Keyboard is proprietary. (Cable for video is shielded.) Check termination of Video.
Dome cameras lose their positions.	Reset the cameras using the Dome configuration menus. Check that the dome cameras are inserted properly in the base. Check the voltage level of the dome camera.
Camera number does not match the multiplexer number.	Check the camera ID and insert the BNC cable into the proper input of the multiplexer.
Picture is torn when switching	Check Line Lock setting and adjust phase of L/L (see page 23).

5. Glossary

Alarm Actions	The assigned responses for the dome camera when inputs change from normal to abnormal states. The dome may run a Preset, Pattern, or have no assigned action for each of the four dome inputs. The dome may also send alarm states to the host controller for processing. See also Input and Normal Input State.
Areas	Programmed start and end points of the dome‘s field of view around its pan axis. Each area is a part of a circular viewing area that extends around the dome. The areas can be different sizes. Up to 16 areas can be programmed for the dome.
Automatic Gain Control (AGC)	Allows for the amplification of the video signal in scenes with minimal ambient light. Many low-light scenes result in picture noise. As gain is increased, the picture noise is also amplified. When AGC is enabled, the value of the gain setting is based on feedback from the camera. When AGC is disabled, the camera uses the value set for the manual gain setting. The trade-off between picture level and noise may be adjusted when AGC is disabled.
On-screen Menu	The text overlay menu system used for setting dome features. The utility is accessed using a keystroke combination. The utility provides settings for camera functions, zoom, alarms, text display, and password protection
Flip	Allows the dome to automatically turn 180 degrees when the camera tilts to its lower limit and stays in that position for a brief delay. When the dome flips (rotates), the camera starts moving upward as long as the tilt control is kept in the down position. Once the Joystick handle is released to neutral position, the tilt control returns to its normal operational mode. The flip feature is useful when you need to track someone who walks directly beneath of the dome and continues on the other side.
Home Position	The default position to which the dome camera returns after an assigned period of inactivity passes. The default position may be a Preset, Tour, Pattern, or No Action.
Input Alarm	A connection point on the dome camera that enables the system to monitor Input Devices. There are four inputs available for the dome camera.
Input Devices	External devices that provide information about the condition of system components that connect to the inputs on the dome camera. Typical input devices include door contacts, motion detectors and smoke detectors.
IR Mode	A feature of the camera that permits manual or automatic switching between color and IR (black-and-white) operation. When IR mode is active, clearer images may be obtained under low-light conditions.
Line Lock	Allows you to phase lock the video with the AC power line. When line lock is enabled, it prevents vertical video rolling when switching multiple cameras to a single monitor. If text appears slightly tinted on color monitors, disabling the line lock may prevent this problem.
Name Information	Relates to the display the dome name, the area where the dome is pointing, the name of the preset or pattern that is running, and alarm names. The display of each type of name setting can be enabled or disabled. When the display of camera or area title(name) is enabled, the information appears on the screen continuously. Preset, tour and pattern titles(names) appear only while they are active.
Normal Input State	Describes the expected state of a device connected to one of eight dome camera’s inputs. The normal state may be open or closed. When a device is not in its normal input state, an alarm is issued.
North Position	User-definable setting that may correspond to magnetic north or some well-known landmark. Used to approximate the camera dome's pointing direction when Direction Indicators are enabled.
Low Shutter	Setting used to improve the quality of video obtained in extreme low-light situations. When the Low Shutter setting is enabled, low-light information is collected over multiple fields based on the Shutter Limit setting. As a result, video may appear blurred or choppy in extreme low-light situations. This setting does not effect camera operation in normal lighting situations. See also Automatic Gain Control (AGC).
Pattern	A series of pan, tilt, zoom and focus movements from a single programmable dome. Up to 8 patterns may be programmed for the dome camera.
Preset	Programmed video scene, based on a specific pan, tilt, zoom, and focus settings. Up to 240 presets may be programmed for the dome camera.

Privacy Zones	This function maskes areas of the dome camera's viewing area. These masks prevent operators of the surveillance system from viewing these designated zones. The Privacy Zones move in relation to the dome camera's pan/tilt position. In addition, the apparent size of the Privacy Zone adjusts automatically as the lens zooms in or out. Up to eight Privacy Zones may be established for a dome camera.
Shutter Limit	Setting used to define the maximum exposure time for the Open Shutter setting. The values for the setting range from 1/2 to 1/60. The default setting is 1/4.
Vector Scan	Move from start point to end point including tilt and zoom simultaneously and linearly.
WDR	Wide Dynamic Range Technology uses two shutter speeds in alternative video fields-high and normal- every 60th (or 50th) of a second and combines two fields into one progressive scan frame. It allows every detail to be captured accurately even if one portion of an image is brillantly. Whether at the high shutter speed or normal shutter speed, the progressive scan CCD provides a horizontal resolution of 470 lines. As a result, combined fields yield a frame of high-quality images.
White balance	Adjustments in the color hue (red and blue) gains for a camera so that true white appears white in the image. It is normally compensated for by the automatic gain control. In some lighting conditions, you may need to manually adjust the red and blue settings for optimal viewing. When Automatic White Balance is enabled, the camera measures the image and automatically adjusts the red and blue settings to balance white. When Automatic White Balance is disabled, the camera uses the values set for the red and blue settings to balance white.

6. Short Cut Key

Short Cut Key	**Function**
PRST	Pop up preset setup menu
TOUR	Pop up guard Tour setup menu
PTRN	Pop up Pattern setup menu
SCAN	Pop up Auto Scan setup menu
NO.**+ PGM +PRST**	Store the current view at the selected number
NO.**+ PGM +TOUR**	Pop up tour setup menu at the selected number
NO.**+ PGM +SCAN**	Pop up auto scan setup menu at the selected number
1 ~ 4 + ON	Turn On Relay
1 ~ 4 + OFF	Turn Off Relay
10 + ON	Night Shot on
10 + OFF	Night Shot off
11 + ON	BLC on
11 + OFF	BLC off
12 + ON	Digital Zoom on (According to digital zoom setting)
12 + OFF	Digital Zoom off
13 + ON	Dome OSD on
13 + OFF	Dome OSD off
14 + ON	Dome Area Title Display on
14 + OFF	Dome Area Title Display off
15 + ON	View Direction on
15 + OFF	View Direction off
100 + ON	Shutter speed auto
101 + ON	Shutter speed 1/4 (PAL 1/3) sec
102 + ON	Shutter speed 1/2 sec
103 + ON	Shutter speed 1 sec
104 + ON	WDR on
104 + OFF	WDR off
105 + ON	Stabilizer on
105 + OFF	Stabilizer off
150 + ON	Image Reverse on
150 + OFF	Image Reverse off

7. Specifications

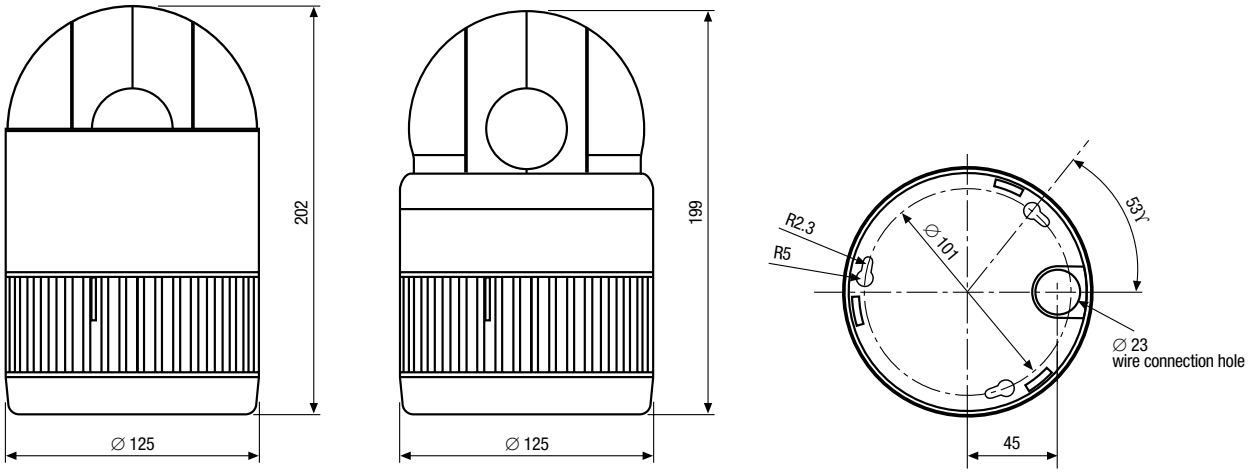
Type	**EDC-142E**	**EDC-141E**	**EDC-143E**
EDP No.	74081	74086	74091
Speed range at manual control (tilt)	0.1° to 90°/sec. (Proportional to the zoom position)		
Speed range at manual control (pan)	0.1° to 90°/sec., Turbo: 360°/sec. (Proportional to the zoom position)		
Preset speed	Up to 380°/sec. pan		
Vertical turning range	-10° to +90°		

Type	EDC-142E	EDC-141E	EDC-143E
EDP No.	74081	74086	74091
Rotation range	360° (endless)		
Preset positioning	240 presets with 16-character labels each. 0.75sec. max. preset recall time		
Backlash	0.2°		
Patterns	4 patterns: 1x up to 240sec., or 3x up to 240sec. in total		
Tours	Up to 8 User programmable guard tours with vector scan. Consisting of 42 presets and other functions with individual dwell time (3 to 99sec.). Selectable fast or slow vector scan		
Autopan function	8 User programmable auto scans with selectable fast or slow vector scan, 9 selectable speeds		
Auto flip function	Rotates dome 180° at bottom of tilt travel		
Programmable park position	Included		
Window blanking	–	8 dynamic window blanking zones with user-defined four-sided shapes and up to 16-character labels each	
Zones	–	16 each with programmable text labels	
In/outdoor use	Indoor/outdoor camera preferences		
Automatic gain control (AGC)	Automatic operation, ON/OFF switchable		
IR cut filter	Automatic operation, ON/OFF switchable		
Imager	1/4" 758 (H) x 592 (V) pixels (Progressive Scan)		
Digital signal processing (DSP)	Yes (DSP-3R)		
Resolution	460 TV lines		470 TV lines
Sensitivity	1.0Lux at F1.4 (0.75Lux at F1.2)	0.7Lux at F1.4 (0.5Lux at F1.2); 0.05Lux at 1/3sec. shutter speed; 0.01Lux at 1/3sec. shutter speed and IR cut filter removed	3.0Lux at F1.6 (1.7Lux at F1.2); 0.2Lux at 1/3sec. shutter speed; 0.02Lux at 1/3sec. shutter speed and IR cut filter removed
Signal-to-noise ratio	>50dB		
Shutter speed (AES/MES)	Automatic/manual: 1/50 to 1/10,000 sec.		Automatic/manual: 1/1.5 to 1/30,000 sec.
Shutter modes	–	High and Low Speed shutter	
Synchronization	Internal/AC line lock, phase adjustment via remote control		
White balance	Modes: Manual, Automatic, Indoor, Outdoor, ATW		
Video output	1Vp-p, CVBS, 75ohms, BNC		
Zoom range	F1.4-3.0/4.1-73.8mm (18x optical, 12x digital zoom)		F1.6/3.6~82.8mm (23 optical, 10x digital zoom)
Horizontal angle of view	48° (Wide); 2.7° (Tele end)		54° (Wide); 2.5° (Tele end)
Iris control	Automatic (with manual override)		
Autofocus	Automatic with manual override		
Minimum object distance (MOD)	0.3m		
Menu driven set-up	ON/OFF switchable		
Text display	16-character labels		
Menu languages	English		
Alarm processing	–	Programmable alarm action with selectable priority levels	
Alarm inputs	–	8, selectable between NO and NC	
Bubble	4.9" (125mm), clear acrylic plastic		
Control interfaces	RS-422/RS-485, 9600Baud, 999 camera ID adresses selectable. Besides the keyboard control via the eneo EDC-KBD(M) series, the control via matrix switchers and keyboards from Pelco (D+P protocol), Ernitec, Philips and Sensormatic* is available. *Back channel		
Keyboard control	Direct mode control with Eneo EDC-KBD(M) keyboard series, or in conjunction with the eneo Triplex Multiplexer series VBMT/VCMT-8000 and DVR series DLR(2) and DXR		
Auxiliary outputs	–	4 relays with NO/NC contact, 24VDC/1A resistive	
Remote control	Camera remote settings via keyboard		
Operation protection	Available		
Backup	Non-volatile back box memory stores all camera and site-specific dome settings		
Supply voltage	18 to 30VAC (24VAC nominal), 50/60Hz		
Power consumption	Approx. 20watts		
Temperature range	0°C to +50°C		
Protection rating	IP40		
Housing	Black plastic for indoor drop-ceiling mount		
Dimensions	See drawing		
Weight	Approx. 1.3kg		

Accessories

EDP No.	Description
70444	Voltage supply unit 230V/24VAC-5A, IP66
70445	Voltage supply unit 230V/24VAC-2A, IP66
74079	System Keyboard w. Joystick, 4" Monitor
74080	System Keyboard f. DLR-204/109/116Series
74088	System Keyboard with 3-axis Joystick,
75201	Matrix, Multiplexer and Telemetry
75106	Universal Keyboard with joystick
74057	Flush Mount Dome Housing, Smoked Bubble
74078	Pendant Mount Outdoor Dome Housing
74077	Pendant Mount Indoor Dome Housing
74076	Pendant Mount Outdoor Dome Housing
74075	Pendant Mount Indoor Dome Housing
74082	Pendant Mount Indoor Dome Housing
74083	Pendant Mount Indoor Dome Housing
74084	Pendant Mount Outdoor Dome Housing
74085	Pendant Mount Outdoor Dome Housing
74089	Converter RS-232/RS-485,
74205	Universal Keyboard for Matrix Switcher

8. Dimensional Drawings



Dimensions: mm

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